

PATENT CLAIMS

1. A refrigerator R characterized in that it comprises a conventional microprocessor system 1 with power supply 2 and by means of a conventional complex two-directional bus 3, which contains conventional data sub-buses, controlling and addressing sub-buses, the microprocessor system 1 is connected to: a module for measuring the temperature 4, whose two data inputs are connected respectively to a temperature sensor 5 arranged in the operating space of the refrigerator for measuring the temperature therein, and to a temperature sensor 6 arranged adjacent to the compressor or the heater of the refrigerator evaporator in order to monitor the normal refrigerator cooling mode; a module 7 for power supply control of the lamp in the refrigerator operating space; a module 8 for power supply control of the compressor or heater of the evaporator of the refrigerator; a module 9 with electronic switch for detecting the "open - closed" position of the refrigerator door; a socket 10 for identification of the coded cards or refrigerator access chips of the authorized user or staff; a sound indicator 11; a controllable refrigerator door lock 12; light indicators 13; multi-linear display 14; keyboard 15; multi-channel transceiver module 16; module 17 for refrigerator power supply monitoring and control, and a module 18 for controlling a refrigerator door closure mechanism 19 in cases of failures, and the microprocessor system 1 is connected, by means of a buffer 20, to sensors arranged within the refrigerator operation space and intended for detection of the position 21 and the kind, price and expiry date 22 of the contained products, whereupon the microprocessor module 1, the power supply 2, the temperature measuring module 4, the module 7 for the power supply control of the refrigerator lamp, the module 8 for the power supply control of the compressor or heater, the sound indicator 11, the multi-channel transceiver module 16, the module 17 for monitoring and control of the power supply 2, the module 18 and the buffer 20 are arranged in a closed outer unit on the back wall of the refrigerator, and the light indicators 13, the multi-linear display 14 and the keyboard 15 are positioned at a suitable and accessible place within the refrigerator so that they are

easily visible upon opening of the refrigerator door, whereupon transponders 23, recognizable by the sensors 22, are positioned onto the products which are supplied to the refrigerator at locations where the sensors 23 are arranged.

2. The refrigerator R according to claim 1 characterized in that the light indicators 13, the multi-linear display 14 and the keyboard 15 are positioned at a suitable and accessible place on the frame of the refrigerator door which is easily visible when the refrigerator door is closed.

3. The refrigerator R according to claim 1 characterized in that the sensors for the product position 21 and the sensors for the product kind, price and expiry date 22 form a unified microwave transceiver arranged outside the refrigerator operating space and the transponders 23 are passive transceivers.

4. A system S1 of refrigerators according to claim 1 characterized in that it comprises N refrigerators R connected to each other by means of N multi-channel communication lines and to a hotel coordination center 24 consisting of a multi-channel transceiver module 25 connected to a conventional central microprocessor system 26 which is linked to a controlling server 27, the type of connection between the refrigerators R and the hotel coordination center 24 is star-like, linear, hierarchical or mixed.

5. The system S1 of refrigerators according to claim 4 characterized in that one or several of the microprocessor systems 1 of the refrigerators R function as bi-directional collector-retransmitters of data obtained from particular groups of other refrigerators R for each microprocessor system 1 and of data obtained from the hotel coordination center 24.

6. A system S2 of refrigerators characterized in that it comprises M systems S1 of refrigerators according to claims 2 and 3 connected to one another by means

of M multi-channel communication lines and to a main coordination center 28, which consists of a multi-channel transceiver module 29 connected to a conventional central microprocessor system 30 linked to a controlling server 31, the main coordination center 28 is connected bi-directionally to data blocks situated at product suppliers 32, in one's own storehouses 33, in the transportation facilities 34 and at a repair base 35, and to global and local data networks 36, the type of the connection between all the elements of the system S2 and the main coordination center 28 is star-like or linear, or hierarchical or mixed.

7. The system S2 of refrigerators according to claim 6 characterized in that one or several of the coordination centers 24 of the hotels H function as bi-directional collector-retransmitters of data obtained from particular groups of other hotels H for each coordination center 24 and of data obtained from the main coordination center 28.